

Application No.: 09/960,487

Amendment Dated: February 17, 2004

Reply to Office Action of: November 21, 2003

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

Claims 1-23. (Canceled)

24. (Previously Presented) A welding wire, comprising:

a wire having a wire surface; and

a deposit on the wire surface,

wherein the deposit comprises

at least one lubricating particle, and

at least one carboxylic acid selected from the group consisting of pentanoic acid, caproic acid, caprylic acid, octylic acid, secanoic acid, capric acid, decanoic acid, lauric acid, linderic acid and synthetic fatty acids;

and wherein the at least one lubricating particle comprises a material selected from the group consisting of molybdenum disulfide, tungsten disulfide, graphite carbon and polytetrafluoroethylene.

25. (Currently Amended) A welding wire, comprising:

a wire having a wire surface; and

a deposit on the wire surface,

wherein the deposit comprises

at least one lubricating particle, and

at least one compound selected from the group consisting of (a) saturated or

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unsaturated, linear or branched, carboxylic acid having from 5 to 12 carbon atoms; (b) a metal carboxylate, and the metal is selected from the group consisting of Mg, Al, Ti, Cr, Mn, Fe, Co, Ni, Cu, Zn, Zr, Sn, Pb and Ce, and mixtures of (a) and (b);

and wherein the at least one lubricating particle comprises a material selected from the group consisting of molybdenum disulfide, tungsten disulfide, graphite carbon and polytetrafluoroethylene;

~~— wherein (b) is.~~

26. (Currently Amended) A welding wire, comprising:

a wire having a wire surface; and

a deposit on the wire surface,

wherein the deposit comprises

at least one lubricating particle, and

at least one compound selected from the group consisting of (a) saturated or unsaturated, linear or branched, carboxylic acid acids having from 5 to 12 carbon atoms;

and wherein the at least one lubricating particle comprises a material selected from the group consisting of molybdenum disulfide, tungsten disulfide, graphite carbon and polytetrafluoroethylene.

27. (New) A welding wire, comprising:

a wire having a wire surface; and

a deposit on the wire surface,

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wherein the deposit comprises

at least one lubricating particle, and

at least one compound (a) selected from the group consisting of saturated or unsaturated, linear or branched, carboxylic acids having from 5 to 12 carbon atoms;

wherein a total amount of said carboxylic acid (a) is 0.001 to 2 g per 10 kg of the wire;

and wherein the at least one lubricating particle comprises a material selected from the group consisting of molybdenum disulfide, tungsten disulfide, graphite carbon and polytetrafluoroethylene;

wherein the deposit further comprises at least one lubricating oil selected from the group consisting of animal and plant oils, mineral oils, and synthetic oils; and

wherein the carboxylic acid and the at least one lubricating particle are present on the wire surface in a total amount of 0.1 to 5 g per 10 kg of the wire.

28. (New) A welding wire, comprising:

a wire having a wire surface; and

a deposit on the wire surface,

wherein the deposit comprises

at least one lubricating particle, and

a mixture of (a) and (b);

wherein (a) is a carboxylic acid selected from the group consisting of pentanoic acid, caproic acid, caprylic acid, octylic acid, secanoic acid, capric

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acid, decanoic acid, lauric acid, linderic acid and synthetic fatty acids; and

wherein (b) is a metal carboxylate that is a metal salt of a carboxylic acid

selected from the group consisting of pentanoic acid, caproic acid, caprylic

acid, octylic acid, secanoic acid, capric acid, decanoic acid, lauric acid,

linderic acid and synthetic fatty acids;

wherein a total amount of said carboxylic acid (a), said metal carboxylate (b) or said mixture of (a) and (b) is 0.001 to 2 g per 10 kg of the wire;

and wherein the at least one lubricating particle comprises a material selected from the group consisting of molybdenum disulfide, tungsten disulfide, graphite carbon and polytetrafluoroethylene.

29. (New) The welding wire according to Claim 24, further comprising a metal carboxylate that is a metal salt of a carboxylic acid selected from the group consisting of pentanoic acid, caproic acid, caprylic acid, octylic acid, secanoic acid, capric acid, decanoic acid, lauric acid, linderic acid and synthetic fatty acids; and

the metal salt comprises a metal selected from the group consisting of Li, Na, Mg, Al, K, Ca, Ti, Cr, Mn, Fe, Co, Ni, Cu, Zn, Zr, Sn, Cs, Pb and Ce.

30. (New) The welding wire according to Claim 24, wherein the deposit further comprises at least one lubricating oil selected from the group consisting of animal and plant oils, mineral oils, and synthetic oils.

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31. (New) The welding wire according to Claim 30, wherein the at least carboxylic acid and the at least one lubricating particle are present on the wire surface in a total amount of 0.1 to 5 g per 10 kg of the wire.

32. (New) A method of making welding wire of Claim 24, the method comprising: coating the wire with the deposit.

33. (New) The welding wire according to Claim 24, wherein the at least one lubricating particle is molybdenum disulfide.

34. (New) The welding wire according to Claim 24, wherein the at least one lubricating particle is tungsten disulfide.

35. (New) The welding wire according to Claim 24, wherein the at least one lubricating particle is graphite carbon.

36. (New) The welding wire according to Claim 24, wherein the at least one lubricating particle is polytetrafluoroethylene.

37. (New) The welding wire according to Claim 25, wherein the carboxylic acid is selected from the group consisting of pentanoic acid, caproic acid, caprylic acid, octylic acid, secanoic acid, capric acid, decanoic acid, lauric acid, linderic acid and synthetic fatty acids.

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38. (New) The welding wire according to Claim 25, wherein the deposit further comprises at least one lubricating oil selected from the group consisting of animal and plant oils, mineral oils, and synthetic oils.

39. (New) The welding wire according to Claim 38, wherein the at least one compound and at least one lubricating particle are present on the wire surface in a total amount of 0.1 to 5 g per 10 kg of the wire.

40. (New) A method of making welding wire of Claim 25, the method comprising: coating the wire with the deposit.

41. (New) The welding wire according to Claim 38, wherein the at least one compound is (a) the carboxylic acid, and wherein the carboxylic acid and the at least one lubricating particle are present on the wire surface in a total amount of 0.1 to 5 g per 10 kg of the wire.

42. (New) The welding wire according to Claim 25, wherein the at least one compound is the (b) metal carboxylate, and wherein the metal carboxylate and the at least one lubricating particle are present on the wire surface in a total amount of 0.1 to 5 g per 10 kg of the wire.

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43. (New) The welding wire according to Claim 25, wherein the at least one lubricating particle is molybdenum disulfide.

44. (New) The welding wire according to Claim 25, wherein the at least one lubricating particle is tungsten disulfide.

45. (New) The welding wire according to Claim 25, wherein the at least one lubricating particle is graphite carbon.

46. (New) The welding wire according to Claim 25, wherein the at least one lubricating particle is polytetrafluoroethylene.

47. (New) The welding wire according to Claim 26, wherein the carboxylic acid is selected from the group consisting of pentanoic acid, caproic acid, caprylic acid, octylic acid, secanoic acid, capric acid, decanoic acid, lauric acid, linderic acid and synthetic fatty acids.

48. (New) The welding wire according to Claim 26, wherein the deposit further comprises at least one lubricating oil selected from the group consisting of animal and plant oils, mineral oils, and synthetic oils.

49. (New) The welding wire according to Claim 48, wherein the carboxylic acid and at least one lubricating particle are present on the wire surface in a total amount of 0.1 to 5 g

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per 10 kg of the wire.

50. (New) A method of making welding wire of Claim 26, the method comprising:

coating the wire with the deposit.

51. (New) The welding wire according to Claim 26, wherein the at least one

lubricating particle is molybdenum disulfide.

52. (New) The welding wire according to Claim 26, wherein the at least one
lubricating particle is tungsten disulfide.

53. (New) The welding wire according to Claim 26, wherein the at least one
lubricating particle is graphite carbon.

54. (New) The welding wire according to Claim 26, wherein the at least one
lubricating particle is polytetrafluoroethylene.

55. (New) The welding wire according to Claim 27, wherein the at least one
carboxylic acid is selected from the group consisting of pentanoic acid, caproic acid, caprylic
acid, octylic acid, secanoic acid, capric acid, decanoic acid, lauric acid, linderic acid and
synthetic fatty acids.

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56. (New) The welding wire according to Claim 27, further comprising metal salt of a carboxylic acid selected from the group consisting of pentanoic acid, caproic acid, caprylic acid, octylic acid, secanoic acid, capric acid, decanoic acid, lauric acid, linderic acid and synthetic fatty acids; and

the metal salt comprises a metal selected from the group consisting of Li, Na, Mg, Al, K, Ca, Ti, Cr, Mn, Fe, Co, Ni, Cu, Zn, Zr, Sn, Cs, Pb and Ce.

57. (New) A method of making welding wire of Claim 27, the method comprising: coating the wire with the deposit.

58. (New) The welding wire according to Claim 27, wherein the at least one lubricating particle is molybdenum disulfide.

59. (New) The welding wire according to Claim 27, wherein the at least one lubricating particle is tungsten disulfide.

60. (New) The welding wire according to Claim 27, wherein the at least one lubricating particle is graphite carbon.

61. (New) The welding wire according to Claim 27, wherein the at least one lubricating particle is polytetrafluoroethylene.

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62. (New) The welding wire according to Claim 28, wherein the metal salt comprises a metal selected from the group consisting of Li, Na, Mg, Al, K, Ca, Ti, Cr, Mn, Fe, Co, Ni, Cu, Zn, Zr, Sn, Cs, Pb and Ce.

63. (New) The welding wire according to Claim 28, wherein the deposit further comprises at least one lubricating oil selected from the group consisting of animal and plant oils, mineral oils, and synthetic oils.

64. (New) The welding wire according to Claim 63, wherein the at least one compound and at least one lubricating particle are present on the wire surface in a total amount of 0.1 to 5 g per 10 kg of the wire.

65. (New) The welding wire according to Claim 28, wherein the mixture of (a) and (b) and the at least one lubricating particle are present on the wire surface in a total amount of 0.1 to 5 g per 10 kg of the wire.

66. (New) A method of making welding wire of Claim 28, the method comprising: coating the wire with the deposit.

67. (New) The welding wire according to Claim 28, wherein the at least one lubricating particle is molybdenum disulfide.

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68. (New) The welding wire according to Claim 28, wherein the at least one lubricating particle is tungsten disulfide.

69. (New) The welding wire according to Claim 28, wherein the at least one lubricating particle is graphite carbon.

70. (New) The welding wire according to Claim 28, wherein the at least one lubricating particle is polytetrafluoroethylene.

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BASIS FOR THE AMENDMENT

Claims 1-23 are canceled.

New Claims 27-70 have been added.

New Claim 27 is supported by Claims 1, 9 and allowable Claim 14.

New Claim 28 is supported by Claim 1 and allowable Claim 21.

New Claims 29-70 are supported by Claims 1, 3, 4, 9, 10 and 12-23 as originally filed.

No new matter is believed to have been added by entry of this amendment. Entry and favorable reconsideration are respectfully requested.

Upon entry of this amendment Claims 27-70 will now be active in this application.